

§ 193.2505

to demonstrate that components will operate satisfactory in service.

(c) Recognizing abnormal operating conditions.

(d) Purging and inerting components according to the requirements of § 193.2517.

(e) In the case of vaporization, maintaining the vaporization rate, temperature and pressure so that the resultant gas is within limits established for the vaporizer and the downstream piping.

(f) In the case of liquefaction, maintaining temperatures, pressures, pressure differentials and flow rates, as applicable, within their design limits for:

- (1) Boilers;
- (2) Turbines and other prime movers;
- (3) Pumps, compressors, and expanders;
- (4) Purification and regeneration equipment; and
- (5) Equipment within cold boxes.

(g) Cooldown of components according to the requirements of § 193.2505.

[Amdt. 193-2, 45 FR 70405, Oct. 23, 1980, as amended by Amdt. 193-18, 69 FR 11337, Mar. 10, 2004]

§ 193.2505 Cooldown.

(a) The cooldown of each system of components that is subjected to cryogenic temperatures must be limited to a rate and distribution pattern that keeps thermal stresses within design limits during the cooldown period, paying particular attention to the performance of expansion and contraction devices.

(b) After cooldown stabilization is reached, cryogenic piping systems must be checked for leaks in areas of flanges, valves, and seals.

§ 193.2507 Monitoring operations.

Each component in operation or building in which a hazard to persons or property could exist must be monitored to detect fire or any malfunction or flammable fluid that could cause a hazardous condition. Monitoring must be accomplished by watching or listening from an attended control center for warning alarms, such as gas, temperature, pressure, vacuum, and flow alarms, or by conducting an inspection

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or test at intervals specified in the operating procedures.

[Amdt. 193-2, 45 FR 70405, Oct. 23, 1980, as amended by Amdt. 193-18, 69 FR 11337, Mar. 10, 2004]

§ 193.2509 Emergency procedures.

(a) Each operator shall determine the types and places of emergencies other than fires that may reasonably be expected to occur at an LNG plant due to operating malfunctions, structural collapse, personnel error, forces of nature, and activities adjacent to the plant.

(b) To adequately handle each type of emergency identified under paragraph (a) of this section and each fire emergency, each operator must follow one or more manuals of written procedures. The procedures must provide for the following:

(1) Responding to controllable emergencies, including notifying personnel and using equipment appropriate for handling the emergency.

(2) Recognizing an uncontrollable emergency and taking action to minimize harm to the public and personnel, including prompt notification of appropriate local officials of the emergency and possible need for evacuation of the public in the vicinity of the LNG plant.

(3) Coordinating with appropriate local officials in preparation of an emergency evacuation plan, which sets forth the steps required to protect the public in the event of an emergency, including catastrophic failure of an LNG storage tank.

(4) Cooperating with appropriate local officials in evacuations and emergencies requiring mutual assistance and keeping these officials advised of:

(i) The LNG plant fire control equipment, its location, and quantity of units located throughout the plant;

(ii) Potential hazards at the plant, including fires;

(iii) Communication and emergency control capabilities at the LNG plant; and

(iv) The status of each emergency.

[Amdt. 193-2, 45 FR 70405, Oct. 23, 1980, as amended by Amdt. 193-18, 69 FR 11337, Mar. 10, 2004]